



AMEGA WORKSHOP

JUNE 1964

The Amega Workshop is published periodically to discuss new techniques and problems in the motion picture magnetic sound field. The Workshop will gladly answer questions in this area, address all inquiries to: Bill Stutz, The Amega Workshop, P.O. Box 25, Sun Valley, California.

SPECIAL AWARD

At the recent SMPTE Convention held at the Ambassador Hotel in Los Angeles, discussion of new equipment and techniques was coupled with the reading of papers and an outstanding attendance. An unusual occurrence, the complete absence of speeches, was one of the highlights of the April 15th banquet. Included in the banquet program was the giving of awards with Bell & Howell receiving the honors for the most outstanding exhibit and Amega Corporation receiving a special award for its exhibit.

The Amega exhibit was highlighted by three rack cabinets each containing three position dummies. Other equipment shown were models MM-2 Master Recording System, M-2 Recorder Reproducer and Models A-1 and A-2 Recording systems.

Comments from the trade at the show indicated that the new modular concept will become par for the industry and special emphasis was placed on the pre-amp and head assembly interchangeability.

SYNC-SELSYN vs DISTRIBUTOR INTERLOCK

The Workshop has prepared a special bulletin showing schematic diagrams of a sync-selsyn system and a distributor system. The components described are manufactured by Amega Corporation, however, the basic system is applicable for use with other equipment.

The Workshop will be glad to answer any questions regarding the interconnection of Amega selsyn and interlock motors with units of other manufacturers.

ACQUISITION OF LIBRARY

The Workshop now has in its possession a complete library of SMPTE Journals. Copies of special articles from this publication will be supplied upon request for a nominal fee of \$1.00 each. A future Workshop issue will contain a complete list of articles pertaining to magnetic recording since 1947. Also included in the library are research data and "standards" bulletins containing the most current information available on 16mm magnetic sound.

STANDARD TEST FILMS

The New York office of the SMPTE maintains a supply of various test films. The society offers a bulletin available on request listing all the films in stock.

AZIMUTH

For consistent sound quality we urge you to perform periodical tests throughout your sound system. Remember, the audio chain is no stronger than the weakest link. We would like to place strong emphasis on the maintenance of the azimuth standard. Your Amega recorder was adjusted at the factory using an SMPTE azimuth film. No studio is complete without this film. Refer to your maintenance handbook for instructions to make the necessary adjustments.

FREQUENCY RESPONSE

Maintaining a flat frequency response is usually dependent upon three factors:

1. Proper azimuth adjustment at all times.

2. Head wear in excess of 100,000 feet of film may require that you make adjustments in the equalization components. A check of your equipment with the SMPTE multi-frequency test film will indicate whether or not you are deficient within the range of 50 to 10,000 cycles.
3. Every phase of your sound system should be checked to assure flat response, minimum distortion and maintenance of industry standards.

25th ANNIVERSARY

We would like to note that William H. Stutz, consulting engineer and founder of the Workshop, recently "celebrated" his twenty-fifth year in the field of motion picture sound. Since 1939 Bill has been a part of a tremendous change in the state of the art of the industry, and has made several technological contributions of considerable value. The wealth of experience accumulated during these years would be hard to measure, but Bill Stutz has our nomination for "Sound Man of the Quarter-Century!"

NEXT ISSUE

A discussion of the minimum requirements for test equipment used within the studio.

How to make tests without spending money for elaborate test equipment.

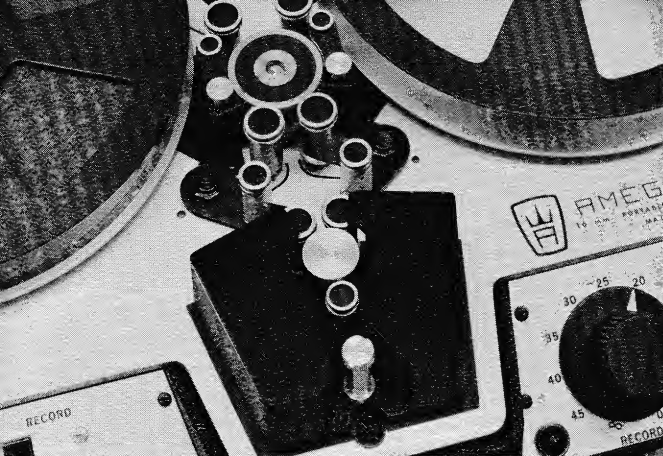
The AMEGA M-3

the first **PORTABLE** synchronous
16mm FILM RECORDER

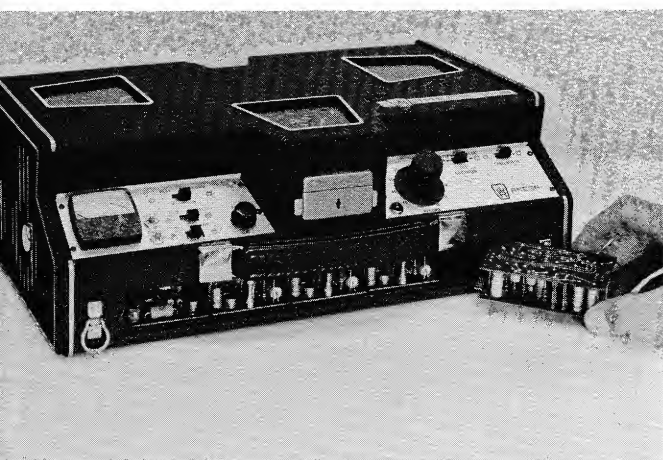


COMPLETELY SELF-CONTAINED,
OVER-THE-SHOULDER
STUDIO QUALITY

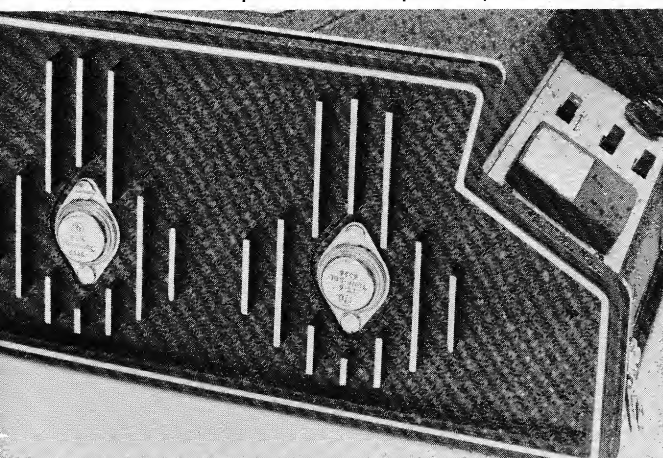
A.V.E. CORPORATION
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NEW YORK, N.Y. 10019
PHONE: PLAZA 7-2590



Unique film movement utilizes instrumentation-type drive which holds flutter to less than .15 any band, .2 rms. over-all.



Plug-in modules are interchangeable between microphone pre-amplifier, record amplifier and playback preamplifier. Bias oscillator and one spare module complete amplifier section.



Transistor power supply designed to operate from desert to Alaskan temperatures. Special heat sink incorporated into recorder housing.



Input-output panel located at right hand end of recorder so that cables will trail the operator during portable operation.

The AMEGA M-3 PORTABLE RECORDER

is the first new innovation in motion picture sound recording in the past ten years. It is truly portable in size and function for over-the-shoulder operation. The self-contained batteries drive a salient pole synchronous motor utilizing a miniaturized solid state converter. Standard 16mm magnetic film is used. The specifications of the amplifier and the film travel speed meet and maintain all SMPTE standards.



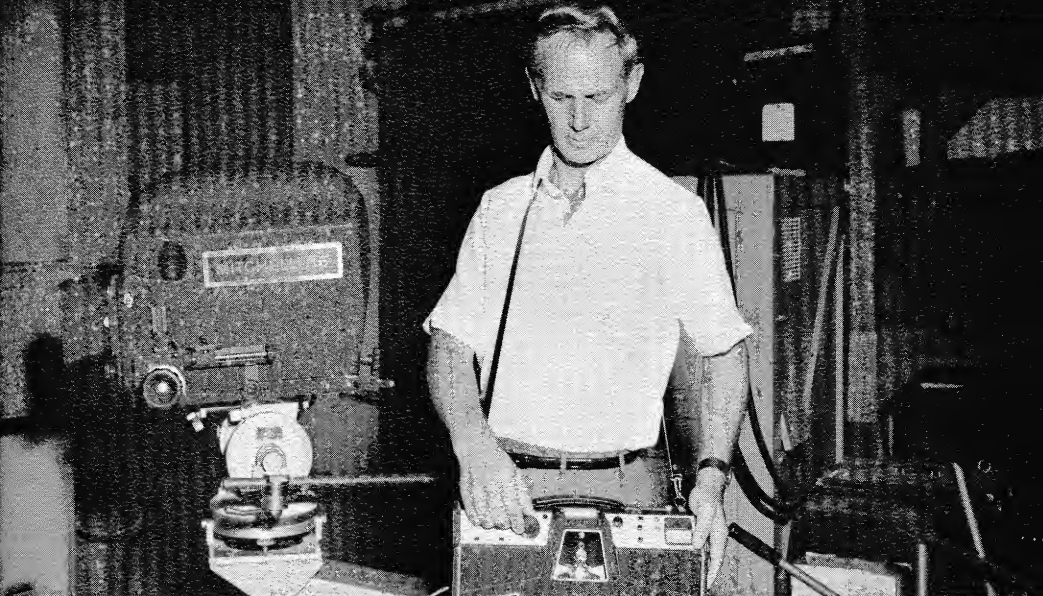
- 1 Plug-in module compartment. Recording and playback preamplifiers, microphone preamplifier, bias oscillator and one spare preamplifier.
- 2 VU-meter, record-playback switch, film-direct monitor, playback gain control, motor control (for playback and rewind functions only), and battery test buttons.
- 3 Record control panel. Camera 60 cycle pulse signal, internal 60 cycle, motor run switch and record gain control.
- 4 Record and playback head assembly. Plug-in type with azimuth adjustment.
- 5 Sprocket drive from sync motor.
- 6 Self-contained reel assemblies for 400 ft. film capacity.
- 7 Cover for sound proofing, with windows for reels and drive. Case made from cast aluminum.
- 8 Audio and power panel for connecting microphone input, bridge input, dialog/music switch, headphone jack, monitor gain control. AC power plug, internal-external power switch, battery charger plug, and camera-sync input.
- 9 AC inverter transistor heat sink.

AMEGA M-3

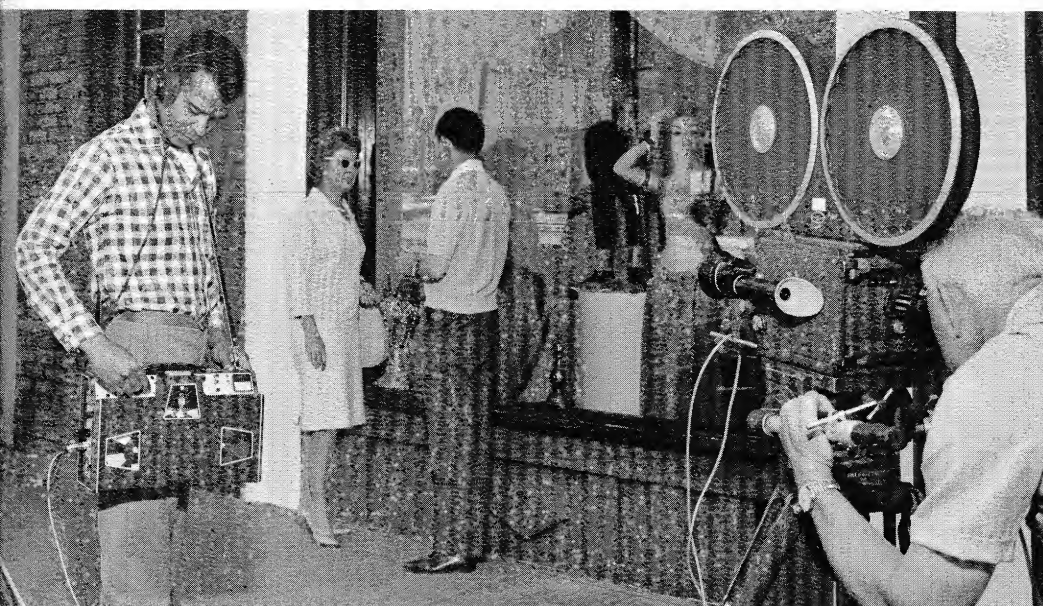
PORTABLE 16mm FILM RECORDER



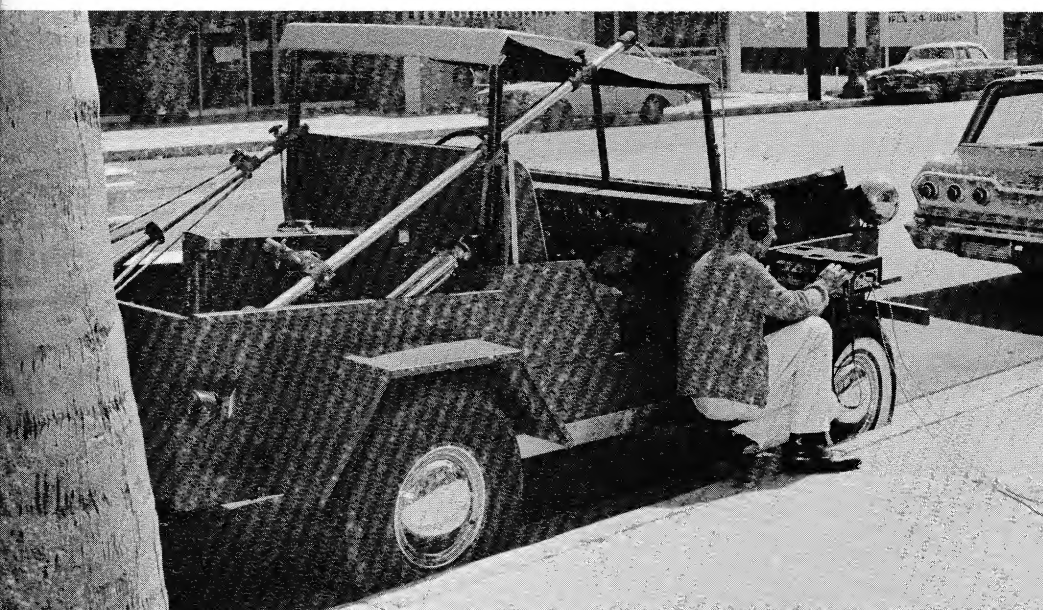
- Standard 16mm 400 ft. reels of magnetic film for ten minutes of continuous operation. Split-apart self-contained reel assemblies permit ease of loading.
- Salient pole synchronous motor is gear coupled to the sprocket drive. Absolute sync is achieved from camera 60 cycle pulse signal. The 60 cycle pulse signal from the camera, amplified through the inverter, controls the speed of the synchronous motor. Built-in 60 cycle frequency generator permits using recorder for synchronous sound with no external source of power or frequency regulation.
- All metal case provides rugged enclosure for mechanism and amplifier.
- Standard switching and controls include record gain control, playback gain control, direct monitor control, separate film-direct, record, playback, sync forward, external-internal 60 cycle control and battery test switches for amplifier power supply and inverter power supply. Separate forward, reverse switch for rewind, internal/external AC power switch and music/dialogue switches are also provided.
- Two torque motors are used for take-up and rewind.
- The Amega M-3 is ideal for field use with any camera which has a 60 cycle output generator, or with camera driven by synchronous motors. Absolute lip-sync is achieved.
- Recording directly on 16mm magnetic film eliminates the dubbing process which is necessary when using 1/4" tape. The result means savings in dollars and time.
- All SMPTE and industry standards are maintained with the use of 16mm magnetic film. Playback is immediate, and the editing process is greatly simplified.
- The nickel cadmium battery power pack is removable and rechargeable. Spare power pack enables the operator to have one set of batteries charging while the other set is in use.
- Audio circuitry and components are equal to the Amega studio recorders. Miniaturization has meant no compromise in quality or specifications. The use of plug-in modules permits the operator to maintain the equipment to a large degree.
- All controls are designed and placed for maximum convenience of operation. The M-3 will operate in either a horizontal or vertical position, under a wide variety of environmental extremes.



Omega M-3 with Mitchell "16" being used as double system recorder.



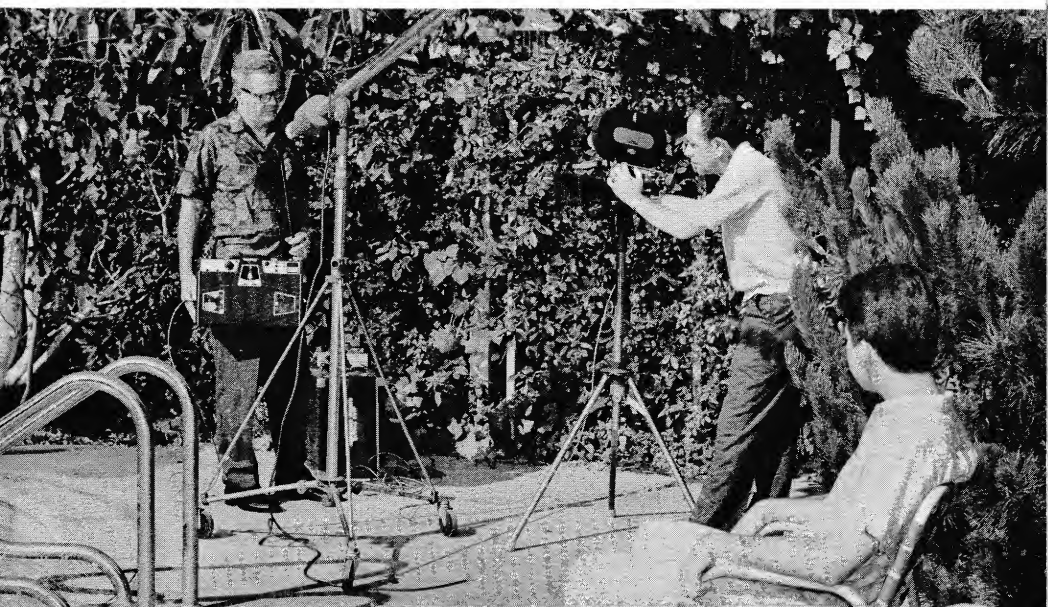
M-3 and Auricon camera, double system, using line source 110 volt-60 cycle power.



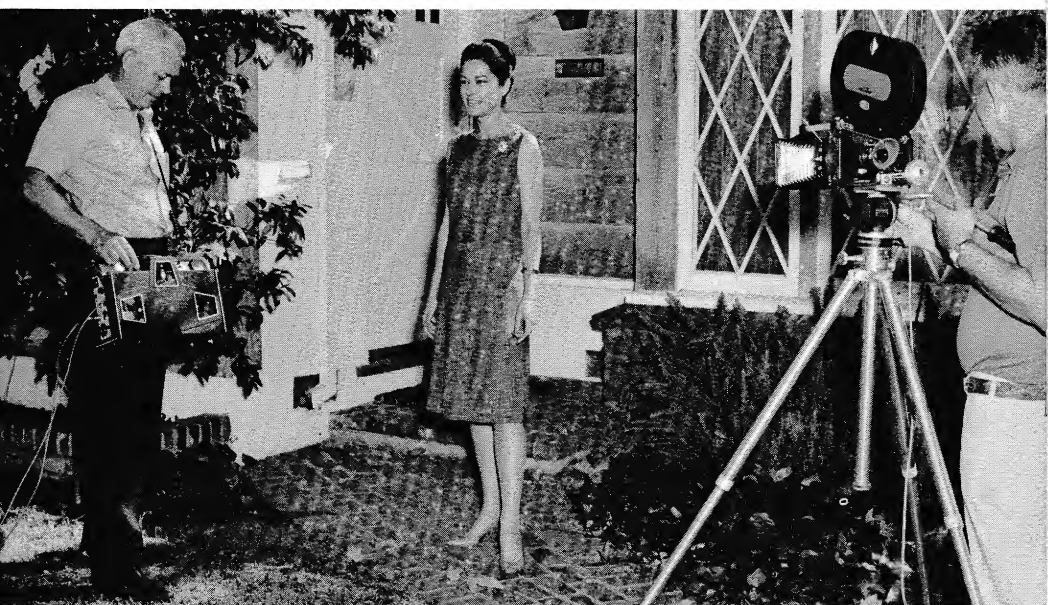
On location, the M-3 can be used with any camera with "sync pulse out".



Checking batteries before location shooting on roof of building.



Arriflex camera with "pulse sync" and M-3 Portable Recorder.



"Pulse sync" from Arriflex camera to Amega M-3 Recorder.

AMEGA M-3 SPECIFICATIONS

Film type: Standard 16 MM magnetic film.

Tracking: Standard edge track.
Other track placements available on special request.

Track width: 200 mils standard for 16 MM master recording.

Drive motor: Salient pole synchronous 117 volts 60 cycle.
Also available 50 cycle.

Takeup and rewind: Two DC torque motors, one for takeup and one for rewind.

Power supply: 12 and 24 volts DC from nickel cadmium rechargeable batteries or 117 volt 60 cycle from power line.

Output from inverter: 117 volts 60 cycle 20 watts.

Internal frequency: Transistorized frequency generator for internal 60 cycle sync signal and external sync from camera.

Amplifiers: Transistorized plug-in microphone preamplifier, record amplifier and playback preamplifier.
All completely interchangeable.
Transistorized plug-in bias oscillator.

Inputs: Microphone 50-250 ohm 90 DB gain.

Bridge: 20 K ohm 20 DB gain.
For Bridging 600 ohm line.

Output: Minus 5 dbm.

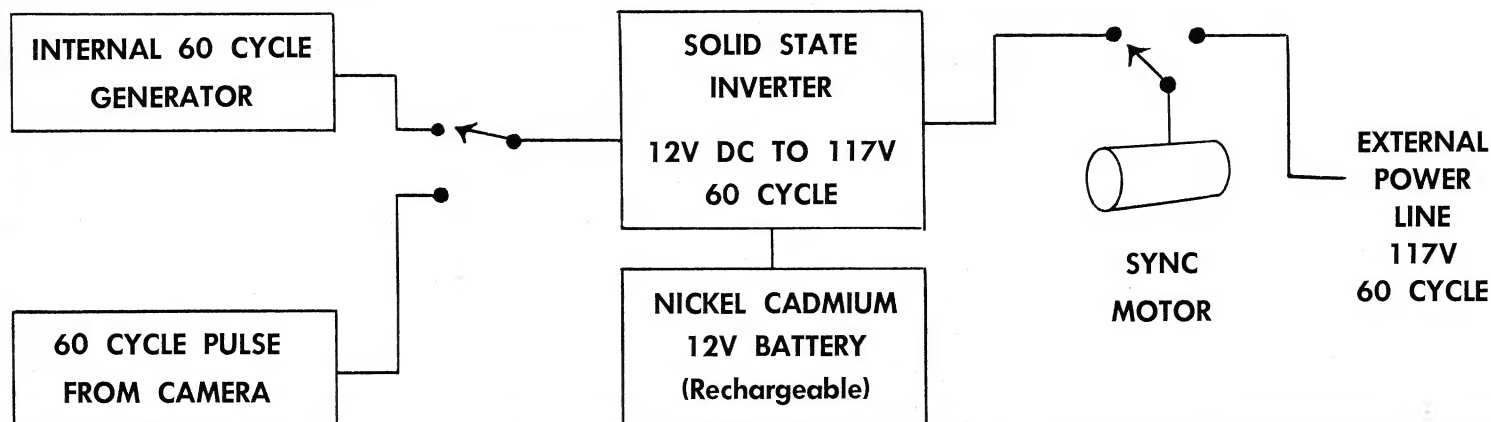
Frequency response: 50 to 10,000 cycle ± 2 db.

Distortion: Less than 1% total harmonic from recorded film.

Flutter and wow: Less than .15 in all bands, .2% overall.

Signal to noise ratio: 50 db.

Weight: Less than 22 lbs. with batteries and film.



WARRANTY:

All Amega components are tested before and after assembly. The complete recorder is tested to meet industry standards. All parts have a one year guarantee. Defective transistor boards for bias oscillator, record amplifier, play amplifier and microphone preamplifier will be replaced as complete boards by your dealer or the factory.

Defective mechanical and electronics components will be replaced on exchange basis. Replacement parts will be shipped air mail without charge to the customer to any part of the world. Record and play heads are guaranteed except for normal wear. No claims under the guarantee will be entertained if parts have been misused or abused.



AMEGA

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AN AFFILIATE OF OMEGA ENGINEERING COMPANY

Manufacturers of Motion Picture Sound Devices